

GARAGES, ONE STORY

RESIDENTIAL
BUILDING INSPECTIONS DEPARTMENT
www.ci.blaine.mn.us



This handout is intended only as a guide and is based in part on the 2015 Minnesota State Building Code, Blaine City ordinances, and good building practice. While every attempt has been made to insure the correctness of this handout, no guarantees are made to its accuracy or completeness. Responsibility for compliance with applicable codes and ordinances falls on the owner or contractor. For specific questions regarding code requirements, refer to the applicable codes or contact your local Building Department.

PLANS

Building plans (two copies) must be submitted with an application to construct a garage or garage addition. Plans must include a **site plan, floor plan, cross section and elevations**. Plans should show the proposed size of the garage; location and size of window and door openings; size of headers over all window and door openings; size, spacing, and direction of rafters or trusses; rafter/truss connection method; size and spacing of studs; the grade and species of lumber to be used; the type of roof and wall sheathing used; information on siding and roofing; and any other pertinent information.

FROST FOOTINGS FOR GARAGE ADDITIONS

The following applies to all areas in the City of Blaine that have corrected soil pads, or other areas with black organic type soils at the depth of the footings. Soils corrections must be designed by a licensed professional engineer, or provide an engineer's soils report to verify minimum bearing capacity of 1,500 PSF prior to issuance of the permit.

FOUNDATIONS

Detached garages may be constructed on a thickened-edge slab. Attached garages must be constructed on a foundation extending at least 42 inches below finished grade.

WALL CONSTRUCTION

Walls may be framed with minimum No. 3 grade studs spaced 16 or 24 inches on center. Utility grade studs may be used when supporting only a roof, spaced not more than 16 inches on center, and limited to 8 feet in height. All other studs shall be limited to ten feet in height. If a single top plate is used, rafters or trusses must be centered over studs.

ROOF TRUSSESS

Wood trusses may be used as long as they are designed to meet state snow load requirements (35lb live snow load). Trusses must be connected to walls with approved connectors. Truss design drawings must be provided.

GARAGE DOORS

Garage doors must meet minimum wind resistance standards and must come with a **label** indicating the door complies with ANSI/DASMA 108 (designed for 90 mph wind).

WALL BRACING

All walls are required to be braced at each end of each wall by one of the following methods:

- Nominal 1X4 continuous diagonal braces let in to top and bottom plates and the intervening studs or approved metal straps installed in accordance with the manufacture's specifications. Braces must be installed at an angle not to exceed 60 degrees or less than 45 degrees.
- 4X8 wood structural panel sheathing not less than 5/16 inch for 16-inch stud spacing and not less than 3/8 inch for 24-inch stud spacing. Sheathing must be attached with a minimum of 6d nails at 12 inches on center.
- 4X8 structural fiberboard sheathing not less than ½ inch thick applied vertically on studs spaced 16 inches on center. Sheathing must be attached with 1½ inch galvanized roofing nails, 6d common nails, or 16 ga 1½ inch staples spaced 3 inches on center around the perimeter and 6 inches on center on intermediate studs.

When garages are fully sheathed with wood structural panel sheathing, wall segments on either side of garage openings that support light frame roofs only with roof covering dead loads of 3 psf or less shall be permitted to have a 4:1 aspect ratio. For narrower wall segments, see page 6 of this handout.

GARAGE DOOR OPENERS

State law requires that all automatic garage door openers sold and installed be equipped with an automatic reversing device. This means that the door must have a means to reverse the closing function if something is detected in the path of the door.

ZONING REQUIREMENTS

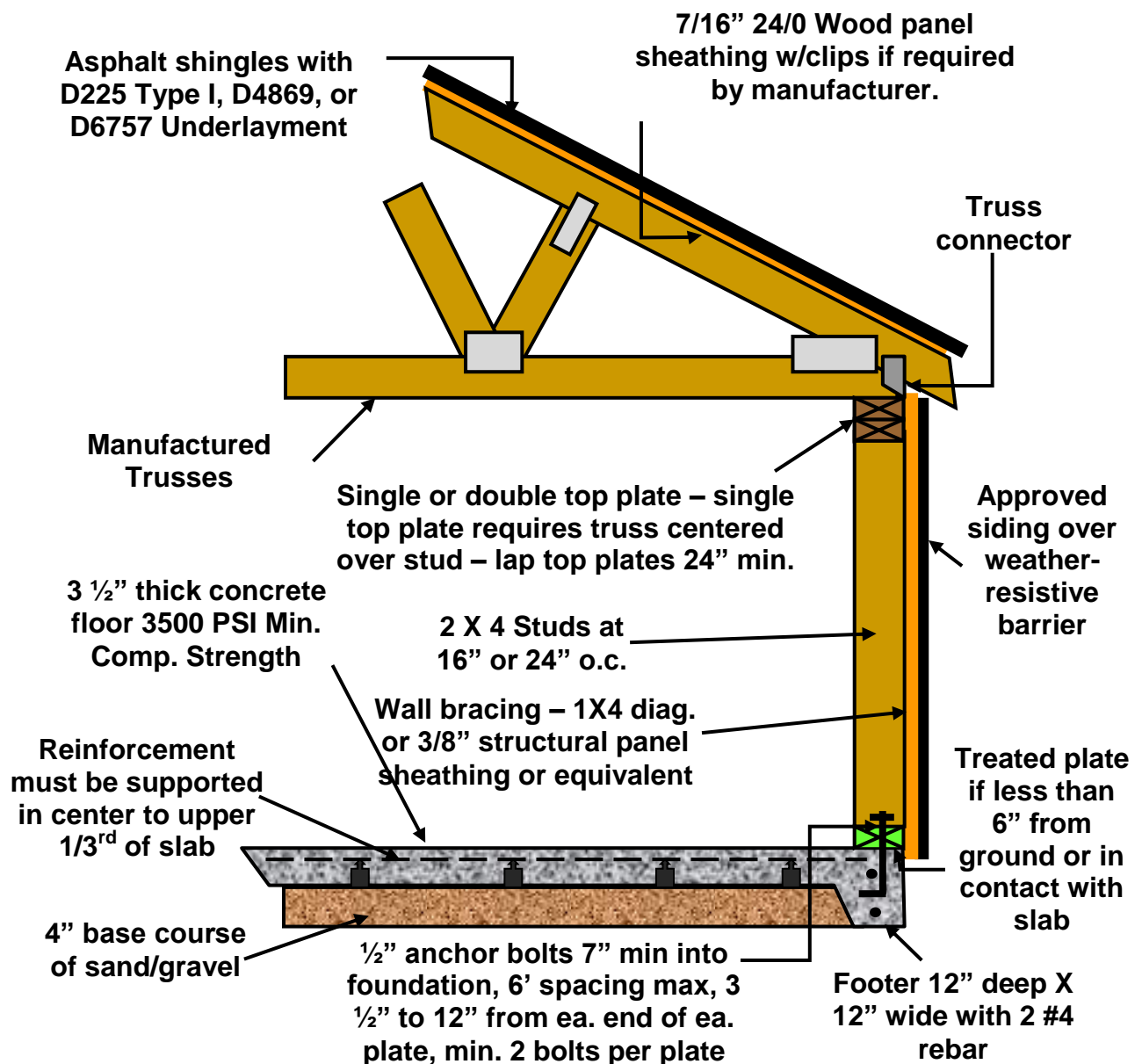
It is the homeowner's responsibility to verify specific zoning requirements or neighborhood covenants, which could impact their proposed project. **Homeowners are responsible for locating and exposing their property line corner stakes to verify correct building setbacks prior to inspections.** Property line and easement information can be found on a Certificate of Survey, Abstract or Deed to verify correct building setbacks.

INSPECTIONS

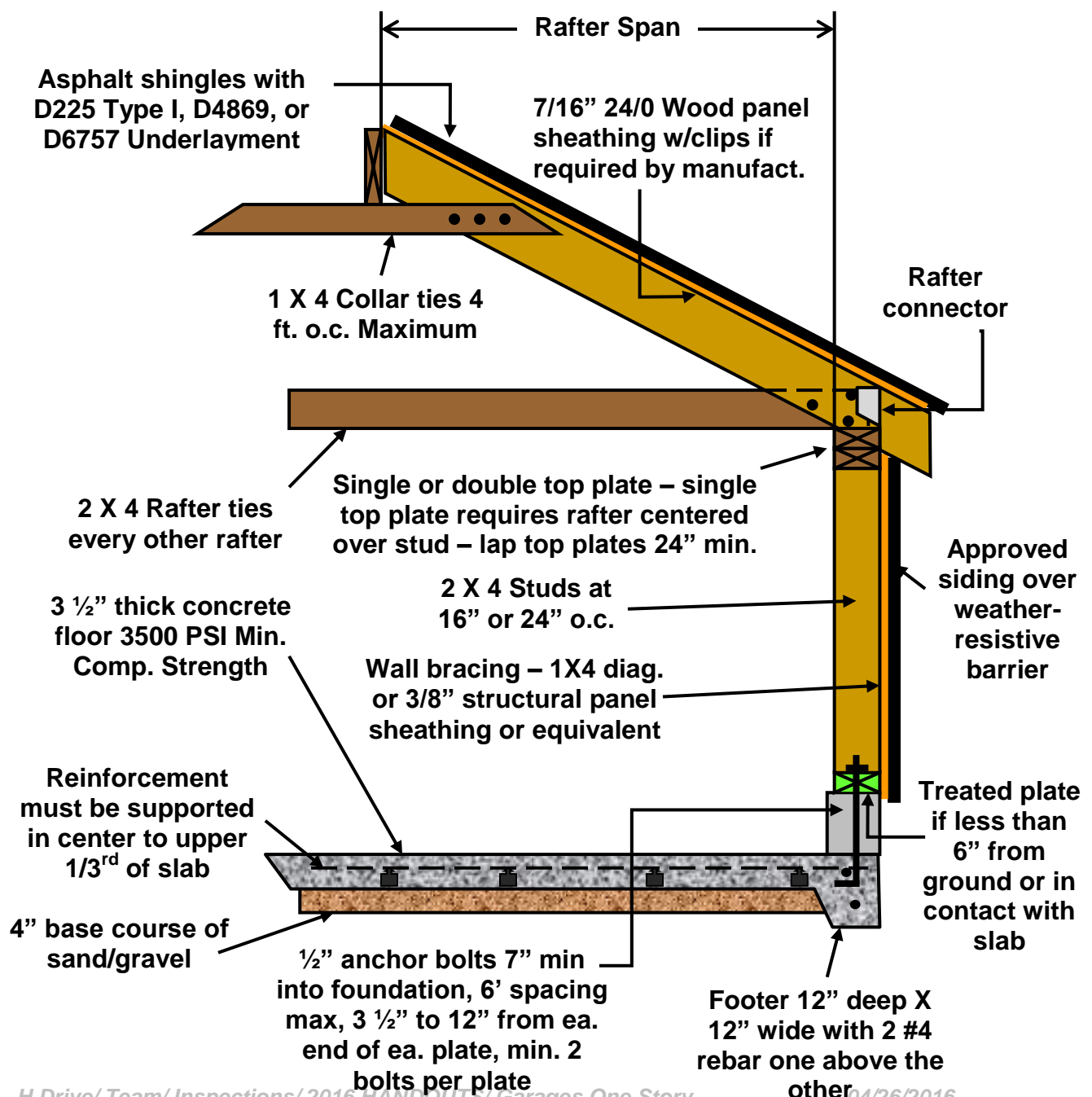
It is the responsibility of the permit applicant to call the Building Department to arrange for the inspections. 24-hour advance notice is required. Inspections typically required for the construction of a garage are:

- Footing and foundation inspection (attached garages only) - after form work is in place but prior to pouring concrete. Property pins must be exposed!
- Slab Inspection (detached garages) – after all formwork and reinforcing is in place but prior to the pouring of concrete. Property pins must be exposed!
- Framing Inspection – after all framing and bracing is complete, rough electrical (if any) is approved, roof and weather barrier installed but prior to the application of siding.
- Final Inspection – after completion of the garage and grading (The architectural style, siding and roofing shall be compatible with the principal structure).

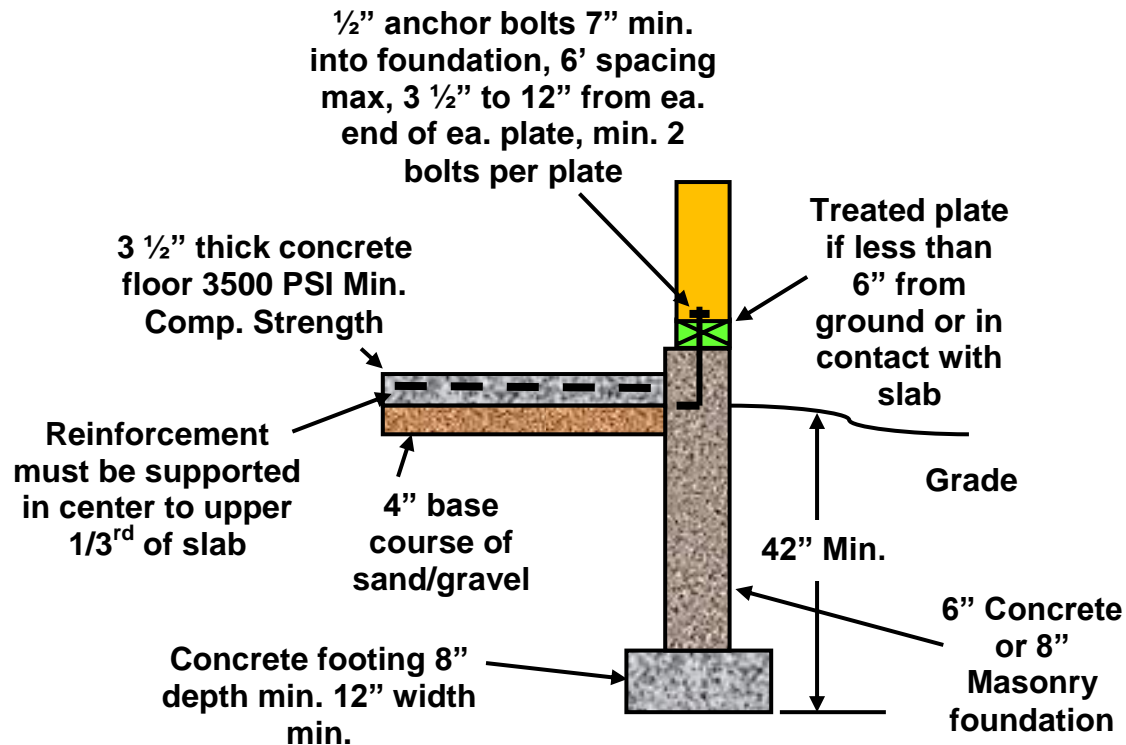
HEADER SIZES FOR GARAGES 20, 24, AND 28 FT WIDE						
	20 Ft WIDE		24 Ft WIDE		28 Ft WIDE	
Span	Header Size	# Jack Studs	Header Size	# Jack Studs	Header Size	# Jack Studs
Up to 3 ft	2-2X4	1	2-2X4	1	2-2X6	1
Up to 4 ft	2-2X6	1	2-2X6	1	2-2X6	1
Up to 6 ft	2-2X8	2	2-2X10	2	2-2X10	2
Up to 7 ft	2-2X10	2	2-2X12	2	2-2X12	2
Up to 8 ft	2-2X12	2	3-2X10	2	3-2X10	2
Up to 9 ft	3-2X10	2	3-2X12	2	3-2X12	2
Up to 10 ft	3-2X12	2	4-2X12	2	4-2X12	2
Up to 12 ft	4-2X12	2	*EWPR		*EWPR	
Over 12 ft	*EWPR		*EWPR		*EWPR	
*Engineered wood product required						



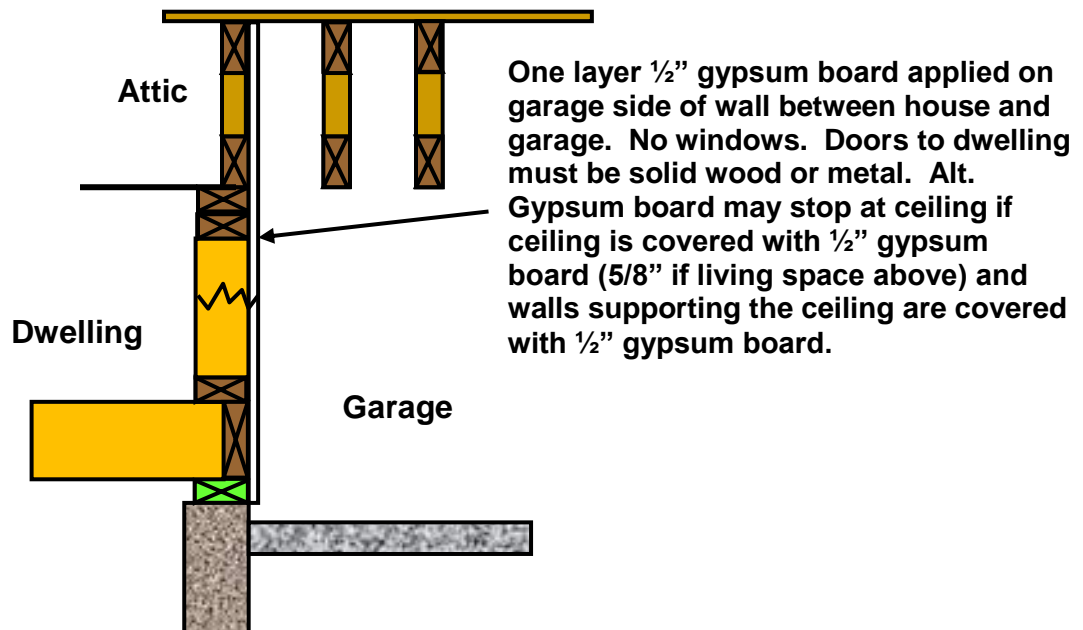
RAFTER SPANS FOR #2 HEM FIR AND SPF					
		2 x 4	2 x 6	2 x 8	2 x 10
12" o.c.	Hem Fir	7'5"	11'1"	14'0"	17'2"
	SPF	7'8"	11'3"	14'3"	17'5"
16" o.c.	Hem Fir	6'7"	9'7"	12'2"	14'10"
	SPF	6'8"	9'9"	12'4"	15'1"
24" o.c.	Hem Fir	5'4"	7'10"	9'11"	12'1"
	SPF	5'5"	7'11"	10'1"	12'4"



FOUNDATION DETAIL FOR ATTACHED GARAGE



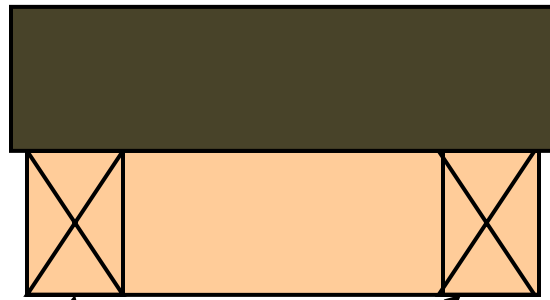
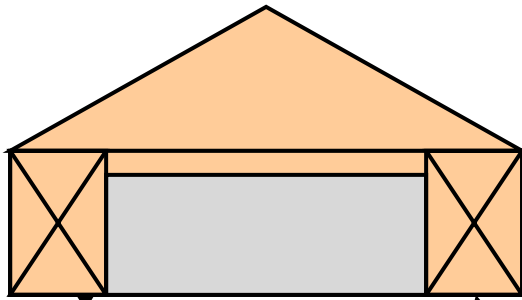
SEPARATION WALL DETAIL FOR ATTACHED GARAGE



WALL BRACING

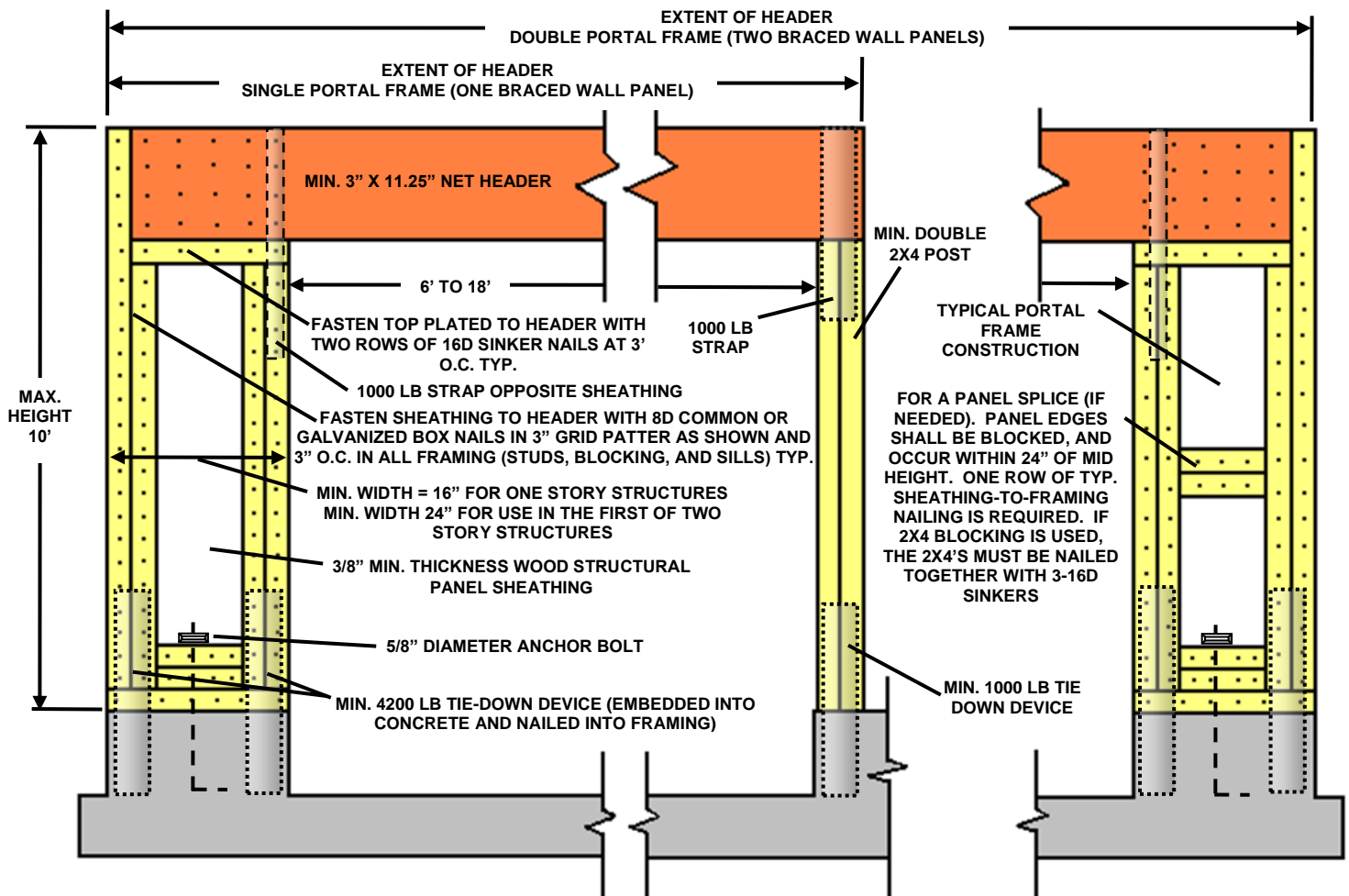
FRONT
ELEVATION

SIDE OR REAR
ELEVATION



4 Ft X 8 Ft 5/16" (16" o.c.) or 3/8" (24" o.c.)
wood structural panels or 1/2" structural
fiberboard sheathing or let-in bracing

WALL BRACING FOR NARROW WALLS



ALTERNATE BRACED WALL PANEL ADJACENT TO A DOOR OR WINDOW OPENING

How to Find Your Property Markers

Property markers, or boundary monuments, are metal pins placed at every corner of the property, including any angle or change of direction of the boundary line. Each pin is shown on the survey of each property. Property markers are required to verify property lines when obtaining permits for certain projects in the City of Blaine, such as fences, shed, and additions. when construction is close to required setbacks or the line itself. Knowing where the property markers are is also important information to avoid legal and neighborhood disputes. Property lines, or boundary lines, are the defined points where one person's land ends and the neighboring land begins.

Step 1

To ensure you can dig for your property markers safely, call Gopher State One at 651-454-0002 to locate utility lines. They will need a 48 hour notice. This is a free service.

Step 2

Obtain a survey of your property. This can be done by going to our web-site www.ci.blaine.mn.us A box will come up that says Lookup Property Surveys online, click on this and enter your address and click the search button in the lower right hand corner. Print out your survey. If you cannot locate a survey on-line go to:
<http://maps.ci.blaine.mn.us/geomoose2/geomoose.html>

Step 3

Gather materials you will need to locate your property markers.

1. Survey
2. Tape measure
3. Metal Detector can be used if you are having difficulty finding your stakes.
4. Shovel

Step 4

Property markers are typically 14.5 feet in from the curb. Go to your front curb and measure back about 14.5 feet in the area you think your marker should be. Use a metal detector and then start digging. The marker should be about 6-10 inches below the surface. It may have a colored cap with numbers on the top.

Step 5

Use your survey to see what distance the back stake is from the front stake and use your tape measure to measure that distance, then use the metal detector and dig. Continue doing this until all stakes are found.

Step 6

Put a marker of some type on the uncovered stake. This will need to remain visible until an inspection is done. Do not remove your property stakes.

Step 7

If you are unable to find your stakes and/or need to have property markers installed, contact a licensed Professional Land Surveyor. You can look in a phone directory "Yellow Pages" for local area land surveying firms.

An existing fence or structure cannot be used to verify property lines.
Property Stakes – How to find Your Property Stakes2.docHO